REMARKS

Claims 1-5 and 11-13 are rejected under 35 U.S.C. Section 103(a) as being unpatentable over U.S. Patent No. 5,959,707 to Murai et al. ("Murai") in view of Takei U.S. Patent No. 5,559,615 ("Takei").

Claims 6 and 14 are rejected under 35 U.S.C. Section 103(a) as being unpatentable over Murai in view Takei in further view of U.S. Patent 5,796,454 to Ma ("Ma").

Claims 15-18 and 24 are rejected under 35 U.S.C. Section 103(a) as being unpatentable over U.S. Patent to Willet et al. ("Willet") in view of Murai and Takei.

Claims 19-23, 28, and 29 are rejected under 35 U.S.C. Section 103(a) as being unpatentable over Willet in view of Murai and Takei and further in view of Ma.

Claims 30-33 are rejected under 35 U.S.C. Section 103(a) as being unpatentable over Willet in view of Murai, Takei and Ma.

Claims 34-37 are rejected under 35 U.S.C. Section 103(a) as being unpatentable over Willet in view of Tekei and Ma, and further in view of U.S. Patent 5,737,044 to Van Haaren et al. ("Van Haaren").

Claims 7-10 and 25-27 were previously canceled. Claims 1-6, 11-24, and 28-37 remain pending.

No new matter is introduced.

In Applicants previous arguments, the claims were variously differentiated over the prior art cited by the Examiner. In this rejection, the Examiner has cited Takei. It is respectfully submitted that this line of rejections are based on impermissible hindsight. The test under §103 is whether the references, taken as a whole, would suggest the invention to one of ordinary skill in the art. Medtronics, Inc. v. Cardiac Pacemakers, Inc., 220 USPQ 97 (Fed. Cir. 1983). Additionally, the

Examiner has not pointed to any motivational statements in any of the cited art for combinations thereof. When determining the patentability of a claimed invention which combines two known elements, the question is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination. WMS Gaming, Inc. v. International Game Technology, 184 F.3d 1339, 1355 (Fed. Cir. 1999). When prior-art references require a selective combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gleaned from the invention itself. Something in the prior art as a whole must suggest the desirability and thus the obviousness, of making the combination. Uniroyal Inc. v. Rudkin-Wiley Corp., 5 USPQ2d 1434 (Fed. Cir. 1988).

**Rejection of Claims 1-5 and 11-13 under 35 U.S.C. Section 103(a)**

The Office Action states that Murai discloses in Figs. 14-24, a cholesteric liquid crystal polarizing device comprising: a substrate or glass, an alignment layer or polyimide, and a cholesteric liquid crystal layer including multiple domains skewed at distribution angles and including a plurality of sub-domains, said sub-domains being disposed within a distribution of angles relative to said at least one domain, each of said domains skewed at an angle relative to a plane parallel to said substrate or skewed at a substantially uniform angle.

Murai does not teach or suggest the invention recited in claim 1. Specifically, Murai does not teach a cholesteric liquid crystal polarizing device that includes a substrate, an alignment layer, and a cholesteric liquid crystal layer including multiple domains where each of the domains is skewed at a random angle relative to a plane parallel to the substrate, as admitted by the Examiner. Takei is cited by the Examiner as disclosing that the domains are skewed at a random angle. However, it is respectfully submitted that Takei teaches that "The cholesteric liquid crystal is in a randomly aligned state to be twisted at a specific helical pitch in the absence of an electric field"

(Abstract, Takei). In view of the foregoing, it is respectfully submitted that claim 1 is patentable over Murai and Takei.

Claims 2-5 and 11-13, which depend directly or indirectly from the independent claim 1 incorporate all of the limitations of claim 1 and are therefore also patentable over Murai for at least those reasons provided for claim 1.

**Rejection of Claims 6 and 14 under 35 U.S.C. Section 103(a)**

The Office Action states that Murai and Takei discloses the device structure as recited in the claim, but does not specifically disclose pixel regions arranged in a repeating array of different colors. The Office action further states that Ma discloses a cholesteric LCD comprising a monochromatic device wherein pixel regions are arranged in a repeating array of red pixels, green pixels, and blue pixels, said red pixels reflecting circularly polarized red light, said green pixels reflecting circularly polarized green light, and blue pixels reflecting circularly polarized blue light.

However, Murai, Takei and Ma, whether taken alone or in combination, do not teach or suggest the subject matter recited in claim 1, as Murai, Takei and Ma fail at least to teach or suggest a cholesteric liquid crystal polarizing device that includes a substrate, an alignment layer, and a cholesteric liquid crystal layer including multiple domains where each of the domains is skewed at a random angle relative to a plane parallel to the substrate. Takei teaches that "The cholesteric liquid crystal is in a randomly aligned state to be twisted at a specific helical pitch in the absence of an electric field" (Abstract, Takei). In view of the foregoing, it is respectfully submitted that claim 1 is patentable over Murai, Takei and Ma.

In view of the foregoing, it is respectfully submitted that Murai, Takei and Ma, whether taken alone or in combination, do not teach or suggest the subject matter recited in claims 6 and 14, which depend directly or indirectly from the independent claim 1 and incorporate all of the

limitations of claim 1, and are therefore also patentable over Murai, Takei and Ma for at least those reasons provided for claim 1.

**Rejection of Claims 15-18 and 24 under 35 U.S.C. Section 103(a)**

The Office Action states that Willet discloses, in fig. 2, a reflective liquid crystal display comprising a planar cholesteric liquid crystal polarizing device, a liquid crystal cell, and an internal quarter-wave retarder, said cholesteric liquid crystal polarizing device, said liquid crystal cell, and said quarter-wave retarder being superposed with one another, but omits a cholesteric liquid crystal polarizing device, including multiple domains, each of said domains skewed at a substantially uniform angle or at a random angle relative to a plane parallel to the cholesteric LCD.

The Office Action further states that Murai discloses, in figs. 14-24, a cholesteric liquid crystal polarizing device including multiple domains skewed at a substantially uniform angle or skewed at distribution angles and including a plurality of sub-domains, said sub-domains being disposed within a distribution of angles relative to said at least one domain, each of said domains skewed at an angle relative to a plain parallel to the cholesteric LCD.

Takei is cited by the Examiner as disclosing that the domains are skewed at a random angle. However, it is respectfully submitted that Takei teaches that "The cholesteric liquid crystal is in a randomly aligned state to be twisted at a specific helical pitch in the absence of an electric field" (Abstract, Takei).

Willet, Murai and Takei do not teach or suggest the invention recited in claim 15. Specifically, Willet, Murai and Takei, whether taken alone or in combination, do not teach or suggest a reflective liquid crystal polarizing display which includes a liquid crystal cell, an internal quarter-wave retarder, and a planar cholesteric liquid crystal polarizing device, which includes multiple domains where each of the domains is skewed at a random angle relative to a plane parallel

to the cholesteric liquid crystal polarizing device; and where the cholesteric liquid crystal polarizing device, the liquid crystal cell, and the quarter-wave retarder are superposed with one another. In view of the foregoing, it is respectfully submitted that claim 15 is patentable over Willet and Murai.

Claims 16-18 and 24, which depend directly or indirectly from the independent claim 15, incorporate all of the limitations of claim 15, and are therefore also patentable over Willet, Murai and Takei for at least those reasons provided for claim 15.

**Rejection of Claims 19-23, 28, and 29 under 35 U.S.C. Section 103(a)**

The Office Action states that the combination of Willet, Murai and Takei discloses the device structure as recited in the claim, but does not specifically disclose pixel regions arranged in a repeating array of different colors. The Office action further states that Ma discloses a cholesteric LCD wherein pixel regions are arranged in a repeating array of red pixels, green pixels, and blue pixels, said red pixels reflecting circularly polarized red light, said green pixels reflecting circularly polarized green light, and blue pixels reflecting circularly polarized blue light.

However, Willet, Murai, Takei and Ma, whether taken alone or in combination, do not teach or suggest the subject matter recited in claim 15, as each of these references fails at least to teach or suggest a reflective liquid crystal polarizing display which includes a liquid crystal cell, an internal quarter-wave retarder, and a planar cholesteric liquid crystal polarizing device which includes multiple domains where each of the domains is skewed at a random angle relative to a plane parallel to the cholesteric liquid crystal polarizing device; and where the cholesteric liquid crystal polarizing device, the liquid crystal cell, and the quarter-wave retarder are superposed with one another.

In view of the foregoing, it is respectfully submitted that Willet, Murai, Takei and Ma, whether taken alone or in combination, do not teach or suggest the subject matter recited in claims 19-23, 28, and 29, which depend directly or indirectly from the independent claim 15 and

incorporate all of the limitations of claim 15, and are therefore also patentable over Willet, Murai, Takei and Ma for at least those reasons provided for claim 15.

**Rejection of Claims 30-33 under 35 U.S.C. Section 103(a)**

The Office Action states that Willet discloses, in fig. 2, a reflective liquid crystal display comprising a planar cholesteric liquid crystal polarizing device, a liquid crystal cell, and an internal quarter-wave retarder, said cholesteric liquid crystal polarizing device, said liquid crystal cell, and said quarter wave retarder being superposed with one another, but omits a cholesteric liquid crystal polarizing device, including multiple domains, each of said domains skewed at an angle relative to a plane parallel to the cholesteric LCD and an absorbing medium.

The Office Action further states that Murai discloses, in figs. 14-23, a cholesteric liquid crystal polarizing device including multiple domains skewed at an angle relative to a plane parallel to the cholesteric LCD.

The Office Action still further states that Ma discloses a cholesteric device comprising a liquid crystal cell comprising a twisted agent and an absorbing medium.

Takei is cited by the Examiner as disclosing that the domains are skewed at a random angle. However, it is respectfully submitted that Takei teaches that "The cholesteric liquid crystal is in a randomly aligned state to be twisted at a specific helical pitch in the absence of an electric field" (Abstract, Takei).

Willet, Murai, Takei or Ma do not teach or suggest the invention recited in claim 30. Specifically, Willet, Murai, Takei and Ma, whether taken alone or in combination, do not teach or suggest a reflective liquid crystal display comprising a linear polarizer having a polarization direction, a liquid crystal cell, a quarter-wave retarder having a fast axis, an absorbing medium, and a planar cholesteric liquid crystal polarizing device including a plurality of pixel regions and

multiple domains each of which are skewed at a random angle relative to a plane parallel to the cholesteric liquid crystal polarizing device. In view of the foregoing, it is respectfully submitted that claim 30 is patentable over Willet, Murai, Takei and Ma.

Claims 31 and 33, which depend directly or indirectly from the independent claim 30, incorporate all of the limitations of claim 30 and are therefore also patentable over Willet, Murai, Takei and Ma for at least those reasons provided for claim 30.

**Rejection of Claims 34-37 under 35 U.S.C. Section 103(a)**

The Office Action states that the combination of Willet, Takei Murai, and Ma discloses a cholesteric LCD device structure as recited in the claim including a black mode device and a white mode device, said cholesteric polarizing device reflecting left-hand or right-hand circularly polarized light, but fails to disclose a retarder oriented at 45 degrees. The Office action further states that Van Haaren discloses a retarder oriented at 45 degrees to a polarization direction.

Willet, Murai, Takei, Ma, and Van Haaren, whether taken alone or in combination, do not teach or suggest the subject matter recited in claim 30, as each of these references fails at least to teach or suggest a reflective liquid crystal display comprising a linear polarizer having a polarization direction, a liquid crystal cell, a quarter-wave retarder having a fast axis, an absorbing medium, and a planar cholesteric liquid crystal polarizing device including a plurality of pixel regions and multiple domains each of which are skewed at a random angle relative to a plane parallel to the cholesteric liquid crystal polarizing device.

In view of the foregoing, it is respectfully submitted that Willet, Murai, Takei,Ma, and Van Haaren, whether taken alone or in combination, do not teach or suggest the subject matter recited in claims 34-37, which depend directly or indirectly from the independent claim 30 and incorporate all

of the limitations of claim 30, and are therefore also patentable over Willet, Murai, Takei,Ma, and Van Haaren for at least those reasons provided for claim 30.

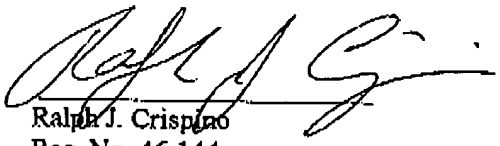
**Double Patenting Rejection**

Applicants respectfully request abeyance until indication of claim allowance over the Section 103 rejections to submit a Terminal Disclaimer to obviate the Double Patenting rejections of claims 1-6, 11-24 and 28-37 over claims 1-22 of US Patent No. 6,833,891.

**Conclusion**

In view of the foregoing, applicants respectfully request reconsideration, withdrawal of all rejections, and allowance of all pending claims in due course.

Respectfully submitted,



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